



Study Stresses Importance Of Exercise On Bone Health - Jumping And Running Identified As Best Physical Activity For Bone Development

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Exercise has many benefits from improving cardiovascular capacity to reducing weight, and now a new research review published in the July/August issue of *Sports Health* highlights that weight bearing exercises especially those that include higher levels of strain such as running or jumping, can be effective in enhancing bone health and preventing future diseases and injury such as osteoporosis and fractures.

"There are many facets related to maintaining bone health, including genetic, intrinsic, and environmental factors, but physical activity is by far one of the strongest means to develop and maintain healthy bone mass," explains study author, Ron Zernicke, PhD, DSc, Director of the Bone & Joint Injury Prevention & Rehabilitation Center at the University of Michigan.

The study reviewed research from 1961 through today by searching Pubmed, Web of Science, and relevant edited books. The study found that three factors-strain magnitude, strain rate, and strain frequency-are important to the impact exercise has on bone health.

"Because a high number of older women experience osteoporosis, postmenopausal women may receive the most benefits from improving bone mineral density (BMD) through weight bearing exercise. Research clearly illustrates, however, that a critical time to develop BMD is during the pre- and early-pubertal periods. Making sure young children exercise regularly is key to developing healthy bone structures and long-term injury prevention. Regardless of age, weight bearing exercises are extremely beneficial." explains Zernicke.

While most exercises provide an increase in bone density there are a few in particular that are the most beneficial according to the study. For instance, (those that put a larger strain on the body) (gymnastics, dance and power sports, such as weightlifting), those that have a higher strain rate (e.g., jumping activities), and those that have a higher strain frequency (e.g., running) also appear to increase bone density. The research also noted previous studies in which the benefits of exercise were achieved with less-time-consuming programs (such as 12 minutes, three days a week). Interval training-short rests in between continuous movement were also found to make a difference to BMD levels. "There still isn't a 'gold-standard' for the best blend of these three facets of exercise-strain magnitude, strain rate, and strain frequency- but, we do know that exercise is directly linked to bone health and can help prevent bone loss and possible fractures. In the end, weight bearing exercise-even for just 20 minutes per day-can strengthen your skeleton significantly," stresses Zernicke.

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